

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
22 March 2001 (22.03.2001)

PCT

(10) International Publication Number
WO 01/20003 A2

(51) International Patent Classification⁷: **C12N 15/54**,
15/11, 9/12, C12Q 1/68, A01K 67/027, G01N 33/68

(21) International Application Number: PCT/EP00/09896

(22) International Filing Date:
11 September 2000 (11.09.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
99402236.6 10 September 1999 (10.09.1999) EP
00401388.4 18 May 2000 (18.05.2000) EP

(71) Applicant (for all designated States except US):
**INSTITUT NATIONAL DE LA RECHERCHE
AGRONOMIQUE (INRA)** [FR/FR]; 147, rue de l'Uni-
versité, F-75007 Paris (FR).

(71) Applicants and

(72) Inventors: **ANDERSSON, Leif** [SE/SE]; Bergagatan 30,
S-752 39 Uppsala (SE). **LOOFT, Christian** [DE/DE];
Mittelweg 3 c, 24802 Bokelholm (DE). **KALM, Ernst**
[DE/DE]; Schmalholt 1, 24239 Achterwehr (DE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **MILAN, Denis**
[FR/FR]; 3 bis, chemin du Tricou, F-31670 Labège (FR).
ROBIC, Annie [FR/FR]; 33, rue des Capitouls, F-31650

Saint-Orens-De-Gameville (FR). **ROGEL-GAILLARD, Claire** [FR/FR]; 156, rue Léon Maurice Nordmann,
F-75013 Paris (FR). **IANNUCCELLI, Nathalie** [FR/FR];
7, boulevard des Alouettes, F-31320 Castanet-Tolosan
(FR). **GELLIN, Joël** [FR/FR]; 8, allée des Amazones,
F-31320 Auzeville (FR). **LE ROY, Pascale** [FR/FR]; 32,
avenue Saint Marc, F-91300 Massy (FR). **CHARDON, Patrick** [FR/FR]; 17, rue de Petite Fontaine, F-91430
Vauhallan (FR).

(74) Agents: **VIALLE-PRESLES, Marie-José** et al.; Cabinet
Ores, 6, avenue de Messine, F-75008 Paris (FR).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ,
DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,
NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM,
TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

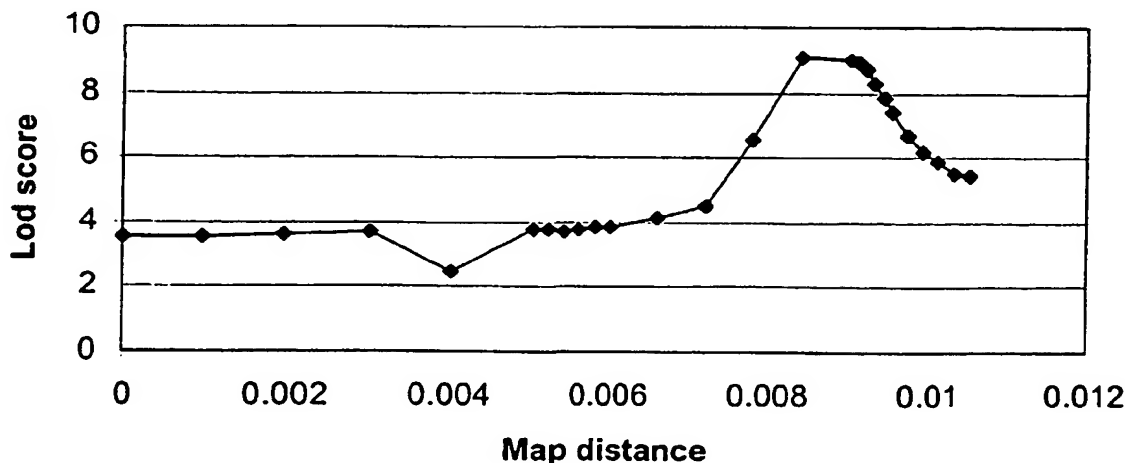
(84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European
patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,
IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG,
CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

— Without international search report and to be republished
upon receipt of that report.

[Continued on next page]

(54) Title: VARIANTS OF THE GAMMA CHAIN OF AMPK, DNA SEQUENCES ENCODING THE SAME, AND USES THEREOF



(57) Abstract: The invention concerns variants of the gamma chain of vertebrate AMP-activated kinase (AMPK), as well as nucleic acid sequences encoding said variants and use thereof for the diagnosis or treatment of dysfunction of energy metabolisms.